

S1 Table. Patients of the study: diagnosis, age, score and claudin-11 patches, the total number of patches in one tubular cross section (pat) and the number of patches in contact with the basal membrane (b pat).

NSP	age	score	pat	b pat	ratio	pat	b pat	ratio	pat	b pat	ratio	pat	b pat	ratio	pat	b pat	ratio	pat	b pat	ratio	pat	b pat	ratio	pat	b pat	ratio	mean pat	mean b pat	mean ratio	SEM	
41	9		9	3	33	17	6	35	13	8	62	15	9	60	25	11	44	11	6	55	16	9	56	13	7	54	14.88	7.38	49.85	3.867	
43	10		7	1	14	10	5	50	16	8	50	17	7	41	20	6	30	20	12	60	16	7	44	18	5	28	15.50	6.38	39.62	5.218	
37	10		12	6	50	16	7	44	21	12	57	26	12	46	6	1	17	25	12	48	12	5	42	17	6	35	16.88	7.63	42.33	4.300	
32	10		21	13	62	25	18	72	25	16	64	21	11	52	30	20	67	31	14	45	25	17	68	26	12	46	25.50	15.13	59.53	3.636	
33	10		14	7	50	20	7	35	16	7	44	12	7	58	19	9	47	12	4	33	20	8	40	13	5	38	15.75	6.75	43.28	2.959	
39	10		24	14	58	29	14	48	23	9	39	36	19	53	27	11	41	22	11	50	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	26.83	13.00	48.21	2.971	
35	10		19	6	32	21	9	43	25	8	32	17	9	53	18	10	56	20	10	50	16	5	31	14	2	14	18.75	7.38	38.81	4.962	
47	10		14	3	21	17	10	59	25	9	36	32	20	63	19	10	53	17	8	47	20	8	40	11	2	18	19.38	8.75	42.08	5.782	
43	10		10	4	40	14	3	21	12	4	33	23	12	52	13	3	23	22	9	41	22	15	68	20	8	40	17.00	7.25	39.89	5.377	
37	10		22	9	41	16	5	31	15	3	20	12	4	33	24	7	29	9	4	44	14	4	29	17	6	35	16.13	5.25	32.87	2.690	
20	10		20	10	50	11	1	9	21	9	43	23	11	48	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	18.75	7.75	37.44	9.568	
37	9		19	14	74	14	7	50	22	11	50	10	4	40	13	3	23	11	1	9	11	2	18	9	3	33	13.63	5.63	37.17	7.359	
36	10		14	3	21	13	5	38	14	5	36	17	2	12	8	5	63	23	4	17	18	8	44	21	10	48	16.00	5.25	34.92	6.052	
38	10		12	1	8	3	0	5	0	0	7	1	1	14	4	0	5	0	0	0	0	1	0	0	7	2	29	5.50	0.50	6.40	3.689
27	10		28	14	50	25	18	72	22	10	45	29	16	55	29	14	48	19	11	58	18	12	67	22	7	32	24.00	12.75	53.41	4.456	
33	10		15	5	33	26	9	35	9	6	67	21	4	19	20	10	50	15	8	53	18	11	61	20	2	10	18.00	6.88	41.01	7.120	
44	10		6	2	33	7	2	29	13	5	38	9	7	78	19	5	26	6	1	17	14	6	43	16	4	25	11.25	4.00	36.12	6.613	
40	10		20	8	40	20	12	60	30	12	40	24	12	50	25	8	32	24	13	54	11	6	55	18	11	61	21.50	10.25	48.98	3.725	
42	10		18	6	33	31	20	65	13	9	69	25	17	68	28	17	61	19	7	37	21	9	43	15	9	60	21.25	11.75	54.44	5.113	
28	10		15	5	33	9	1	11	14	5	36	9	3	33	13	6	46	22	5	23	8	3	38	15	6	40	13.13	4.25	32.48	3.855	
56	10		13	7	54	18	6	33	26	10	38	30	19	63	26	16	62	17	8	47	25	7	28	12	7	58	20.88	10.00	47.99	4.755	
40	9		20	15	75	20	9	45	28	14	50	24	18	75	21	9	43	12	6	50	22	8	36	19	9	47	20.75	11.00	52.70	5.107	
37	10		19	5	26	19	7	37	14	6	43	18	9	50	29	16	55	20	13	65	14	7	50	21	9	43	19.25	9.00	46.13	4.158	
40	10		18	10	56	15	6	40	22	3	14	24	8	33	15	9	60	12	5	42	25	12	48	14	6	43	18.13	7.38	41.88	5.050	
36	10		20	2	10	7	1	14	14	0	0	14	2	14	25	5	20	12	3	25	17	7	41	20	3	15	16.13	2.88	17.47	4.252	
median	37	10																										mean ratio	41.00	1.236	
mean	37.64	9.88																										mean pat	17.68	0.465	
number	25																											mean b pat	7.71	0.332	

abbreviations: b basal, pat patch, n.d. no data

S1 Table. Patients of the study: diagnosis, age, score and claudin-11 patches, the total number of patches in one tubular cross section (pat) and the number of patches in contact with the basal membrane (b pat).

Hyp	age	score	pat	b pat	ratio	pat	b pat	ratio	pat	b pat	ratio	pat	b pat	ratio	pat	b pat	ratio	pat	b pat	ratio	pat	b pat	ratio	pat	b pat	ratio	mean pat	mean b pat	mean ratio	SEM
36	10	18	17	94	12	11	92	26	23	88	23	19	83	12	11	92	15	15	100								17.67	16.00	91.47	2.375
43	8	12	4	33	30	13	43	16	6	38	13	5	38	15	5	33	25	11	44	15	7	47	21	10	48	18.38	7.63	40.53	2.004	
39	8	9	3	33	7	3	43	7	3	43	11	5	45	11	5	45	17	9	53	13	5	38	1	0	0	9.50	4.13	37.67	5.743	
37	9	17	10	59	18	7	39	9	4	44	17	4	24	18	5	28	17	10	59	17	8	47	29	8	28	17.75	7.00	40.87	4.907	
32	8	22	14	64	26	15	58	12	7	58	10	7	70	14	10	71	14	7	50	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	16.33	10.00	61.85	3.324	
38	8	11	3	27	18	4	22	15	6	40	18	10	56	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	15.50	5.75	36.26	7.439	
37	10	16	7	44	27	14	52	18	9	50	20	9	45	24	12	50	17	6	35	22	11	50	26	19	73	21.25	10.88	49.87	3.818	
44	8	20	10	50	16	9	56	15	10	67	25	11	44	17	7	41	20	7	35	7	2	29	22	13	59	17.75	8.63	47.59	4.534	
35	9	26	13	50	25	9	36	27	13	48	17	13	76	24	12	50	31	18	58	18	11	61	36	23	64	25.50	14.00	55.46	4.316	
47	8	18	7	39	13	5	38	23	5	22	21	11	52	18	4	22	11	3	27	12	4	33	6	2	33	15.25	5.13	33.45	3.572	
40	9	25	9	36	16	5	31	17	3	18	22	9	41	20	8	40	14	4	29	14	5	36	13	4	31	17.63	5.88	32.61	2.639	
40	8	14	6	43	14	7	50	11	8	73	26	16	62	24	7	29	18	6	33	17	6	35	14	4	29	17.25	7.50	44.19	5.697	
28	9	22	13	59	15	9	60	23	9	39	9	2	22	18	10	56	16	8	50	11	7	64	15	8	53	16.13	8.25	50.37	4.817	
30	9	11	10	91	12	9	75	15	12	80	10	7	70	11	10	91	18	18	100	16	14	88	20	18	90	14.13	12.25	85.54	3.469	
32	7	18	10	56	17	9	53	18	8	44	29	19	66	22	11	50	26	17	65	18	12	67	28	10	36	22.00	12.00	54.53	3.932	
39	10	14	2	14	13	6	46	14	6	43	23	17	74	22	11	50	5	1	20	16	7	44	5	0	0	14.00	6.25	36.37	8.309	
40	6	16	10	63	24	15	63	18	12	67	16	5	31	16	1	6	21	16	76	18	9	50	22	12	55	18.88	10.00	51.24	7.962	
32	10	6	0	0	6	2	33	10	2	20	5	0	0	9	2	22	6	2	33	6	1	17	5	0	0	6.63	1.13	15.69	5.041	
40	9	6	0	0	10	3	30	12	3	25	10	2	20	15	7	47	16	5	31	11	3	27	19	9	47	12.38	4.00	28.44	5.335	
35	7	26	15	58	20	10	50	21	11	52	26	14	54	10	5	50	24	9	38	26	12	46	18	12	67	21.38	11.00	51.78	2.997	
44	8	24	20	83	27	16	59	13	4	31	23	15	65	13	3	23	18	8	44	22	12	55	22	10	45	20.25	11.00	50.76	6.802	
35	9	22	13	59	23	9	39	25	21	84	28	22	79	26	16	62	23	8	35	30	13	43	22	10	45	24.88	14.00	55.74	6.464	
26	9	25	16	64	16	7	44	24	9	38	26	12	46	21	9	43	13	4	31	30	13	43	25	13	52	22.50	10.38	45.05	3.482	
34	10	16	4	25	22	9	41	18	9	50	16	8	50	20	6	30	12	3	25	11	6	55	11	2	18	15.75	5.88	36.70	4.913	
median	37	9																									mean ratio	47.25	1.502	
mean	36.79	8.58																									mean pat	17.49	0.473	
number	24																										mean b pat	8.66	0.370	

abbreviations: b basal, pat patch, n.d. no data

S1 Table. Patients of the study: diagnosis, age, score and claudin-11 patches, the total number of patches in one tubular cross section (pat) and the number of patches in contact with the basal membrane (b pat).

MA	age	score	pat	b pat	ratio	pat	b pat	ratio	pat	b pat	ratio	pat	b pat	ratio	pat	b pat	ratio	pat	b pat	ratio	pat	b pat	ratio	pat	b pat	ratio	mean pat	mean b pat	mean ratio	SEM
30	0	16	7	44	20	11	55	22	10	45	12	5	42	4	1	25	11	5	45	23	15	65	22	13	59	16.25	8.38	47.58	4.365	
39	0	19	7	37	17	6	35	13	3	23	13	7	54	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	15.50	5.75	37.26	6.327	
29	0	18	7	39	16	4	25	9	1	11	21	5	24	17	8	47	9	4	44	9	3	33	17	8	47	14.50	5.00	33.84	4.596	
32	0	10	3	30	16	12	75	7	3	43	9	4	44	16	8	50	10	5	50	12	5	42	11	4	36	11.38	5.50	46.29	4.729	
n.d.	0	15	10	67	20	12	60	18	7	39	14	6	43	25	13	52	20	11	55	9	4	44	17	11	65	17.25	9.25	53.07	3.667	
30	0	19	9	47	19	18	95	16	5	31	16	9	56	25	17	68	23	8	35	9	3	33	19	9	47	18.25	9.75	51.64	7.580	
33	0	10	4	40	18	8	44	18	6	33	11	9	82	24	12	50	16	6	38	18	7	39	12	6	50	15.88	7.25	47.00	5.393	
32	0	6	1	17	6	3	50	7	4	57	8	3	38	10	2	20	10	3	30	14	11	79	9	4	44	8.75	3.88	41.79	7.229	
22	0	20	14	70	10	2	20	12	5	42	21	14	67	15	14	93	9	5	56	13	8	62	20	13	65	15.00	9.38	59.22	7.599	
38	0	4	0	0	10	4	40	12	5	42	15	4	27	9	5	56	13	8	62	15	8	53	16	8	50	11.75	5.25	41.10	7.014	
32	0	17	12	71	13	7	54	11	7	64	11	4	36	12	4	33	5	1	20	6	4	67	8	3	38	10.38	5.25	47.74	6.521	
17	0	21	12	57	25	16	64	22	11	50	30	16	53	13	10	77	22	9	41	19	13	68	12	7	58	20.50	11.75	58.63	3.960	
47	0	25	15	60	23	20	87	25	22	88	15	6	40	13	8	62	13	8	62	9	6	67	24	18	75	18.38	12.88	67.46	5.573	
36	0	20	9	45	21	14	67	20	4	20	21	12	57	13	5	38	17	12	71	13	10	77	24	18	75	18.63	10.50	56.22	7.135	
31	0	21	12	57	10	6	60	19	10	53	17	9	53	17	14	82	12	4	33	8	6	75	15	9	60	14.88	8.75	59.18	5.248	
29	0	22	12	55	24	15	63	8	5	63	9	3	33	15	5	33	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	15.60	8.00	49.24	6.655	
31	0	13	6	46	13	7	54	13	5	38	14	9	64	8	2	25	9	7	78	19	12	63	8	4	50	12.13	6.50	52.34	5.814	
30	0	24	14	58	21	15	71	5	2	40	17	10	59	14	5	36	17	7	41	13	2	15	17	5	29	16.00	7.50	43.78	6.411	
30	0	20	10	50	23	17	74	20	11	55	25	13	52	15	8	53	17	8	47	20	10	50	18	7	39	19.75	10.50	52.52	3.518	
44	0	13	9	69	22	12	55	31	18	58	19	8	42	21	10	48	34	19	56	24	11	46	11	6	55	21.88	11.63	53.48	2.986	
34	0	40	25	63	31	14	45	28	17	61	34	21	62	34	24	71	36	27	75	44	31	70	29	26	90	34.50	23.13	66.98	4.563	
32	0	23	14	61	25	16	64	21	13	62	26	11	42	32	23	72	19	11	58	17	10	59	14	7	50	22.13	13.13	58.46	3.166	
31	0	18	12	67	20	9	45	16	11	69	28	24	86	32	24	75	19	8	42	19	11	58	21	7	33	21.63	13.25	59.31	6.359	
26	0	14	7	50	13	10	77	18	10	56	23	7	30	15	10	67	21	8	38	8	3	38	11	3	27	15.38	7.25	47.81	6.257	
35	0	22	15	68	31	19	61	19	6	32	18	7	39	21	12	57	19	11	58	20	8	40	22	12	55	21.50	11.25	51.19	4.519	
median	32	0																										mean ratio	51.33	1.208
mean	32.08	0.00																										mean pat	17.17	0.504
number	24																											mean b pat	9.32	0.403

abbreviations: b basal, pat patch, n.d. no data

S1 Table. Patients of the study: diagnosis, age, score and claudin-11 patches, the total number of patches in one tubular cross section (pat) and the number of patches in contact with the basal membrane (b pat).

SCO	age	score	pat	b pat	ratio	pat	b pat	ratio	pat	b pat	ratio	pat	b pat	ratio	pat	b pat	ratio	pat	b pat	ratio	pat	b pat	ratio	pat	b pat	ratio	mean pat	mean b pat	mean ratio	SEM
38	0	34	32	94	8	7	88	24	22	92																22.00	20.33	91.09	1.932	
31	0	31	30	97	28	28	100	18	18	100	19	18	95	30	28	93	20	19	95	25	25	100	21	18	86	24.00	23.00	95.69	1.708	
23	0	17	16	94	20	20	100	15	13	87	19	14	74	8	6	75	12	11	92	12	9	75	27	26	96	16.25	14.38	86.55	3.760	
21	0	24	17	71	34	26	76	23	18	78	18	11	61	25	22	88	35	27	77	28	23	82	44	42	95	28.88	23.25	78.68	3.679	
39	0	36	31	86	23	18	78	31	29	94	27	27	100	26	25	96	24	22	92	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	27.83	25.33	90.96	3.166	
39	0	20	18	90	29	25	86	18	15	83	21	15	71	19	15	79	26	19	73	25	21	84	23	15	65	22.63	17.88	79.03	2.985	
42	0	28	27	96	25	22	88	27	26	96	18	17	94	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	24.50	23.00	93.79	1.983	
36	0	27	25	93	24	21	88	30	28	93	22	20	91	26	23	88	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	25.80	23.40	90.56	1.134	
36	0	13	4	31	21	7	33	14	2	14	18	7	39	20	3	15	19	7	37	17	5	29	25	8	32	18.38	5.38	28.82	3.280	
30	0	40	39	98	25	19	76	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	32.50	29.00	86.75	10.750	
40	0	30	29	97	37	32	86	27	25	93	27	26	96	38	38	100	32	31	97	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	31.83	30.17	94.82	1.924	
30	0	24	22	92	27	25	93	24	21	88	27	26	96	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	25.50	23.50	92.01	1.807	
33	0	39	35	90	23	20	87	32	25	78	30	26	87	20	19	95	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	28.80	25.00	87.30	2.738	
36	0	31	26	84	29	27	93	28	27	96	27	23	85	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	28.75	25.75	89.65	3.044	
35	0	30	28	93	22	18	82	32	28	88	31	27	87	16	11	69	14	11	79	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	24.17	20.50	82.84	3.501	
41	0	14	13	93	13	13	100	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	13.50	13.00	96.43	3.571	
34	0	29	25	86	26	20	77	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	27.50	22.50	81.56	4.642	
28	0	34	31	91	29	28	97	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	31.50	29.50	93.86	2.688	
35	0	38	37	97	43	37	86	30	27	90	30	30	100	40	38	95	32	31	97	43	37	86	32	30	94	36.00	33.38	93.14	1.857	
median	35	0																										mean ratio	85.98	1.867
mean	34.05	0.00																										mean pat	24.62	0.770
number	19																											mean b pat	20.19	0.883

SGA	age	score	pat	b pat	ratio	pat	b pat	ratio	pat	b pat	ratio	pat	b pat	ratio	pat	b pat	ratio	pat	b pat	ratio	pat	b pat	ratio	pat	b pat	ratio	mean pat	mean b pat	mean ratio	SEM
38	0	18	10	56	24	12	50	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	21.00	11.00	52.78	2.778	
31	0	12	6	50	12	6	50	11	1	9	8	2	25	12	2	17	21	8	38	18	5	28	23	2	9	14.63	4.00	28.17	5.882	
36	0	17	7	41	16	6	38	19	9	47	20	8	40	30	6	20	15	5	33	13	4	31	28	9	32	19.75	6.75	35.29	2.914	
82	0	21	7	33	21	6	29	18	8	44	13	5	38	17	5	29	13	6	46	23	10	43	17	7	41	17.88	6.75	38.13	2.437	
36	0	21	6	29	37	12	32	18	10	56	21	8	38	17	10	59	30	13	43	19	4	21	23	8	35	23.25	8.88	39.08	4.587	
37	0	24	4	17	11	2	18	34	10	29	25	10	40	26	8	31	28	11	39	20	8	40	12	3	25	22.50	7.00	29.91	3.353	
51	0	10	1	10	25	4	16	28	11	39	29	5	17	14	5	36	8	1	13	15	2	13	22	3	14	18.88	4.00	19.71	3.971	
51	0	15	7	47	8	3	38	9	3	33	14	4	29	7	3	43	17	6	35	16	8	50	16	6	38	12.75	5.00	38.97	2.513	
median	38	0																										mean ratio	35.25	1.658
mean	45.25	0.00																										mean pat	18.60	0.894
number	8																											mean b pat	6.22	0.406

abbreviations: b basal, pat patch, n.d. no data